argues (pp. 254-256) for the superiority of connected points ("peak-top curves") over successive rectangles ("flat-top curves"). But the use of successive rectangles is the only really accurate method. It indicates the limitations of the statistics and avoids arbitrary interpolation. Mr. Brinton gives an interesting account of the construction of pin maps, but his general discussion of map making would have been improved if he had taken account of Professor Ripley's instructive paper on that subject. He departs from his theme to discuss "methods of collecting and tabulating data," but merely gives an account of the Hollerith machines. A description of simple time-saving methods in the use of cards and tally-sheets, together with some consideration of the proper planning of tables would have been more useful to the majority of his readers.

ALLYN A. YOUNG.

Cornell University.

Income. An Examination of the Returns for Services Rendered and from Property Owned in the United States. By SCOTT NEARING. (New York: The Macmillan Company. 1915. Pp. xxvii, 238. $1.25.)

The scope of Professor Nearing's book is accurately described in the subtitle. It is an attempt to substitute for the old categories of rent, wages, interest, and profits a new distinction between income from service and income to property; to measure for the United States, so far as the statistical data permit, the return to effort as contrasted with the return to property; to prove that service is underpaid and property ownership disproportionately rewarded; and to sound a warning that present methods of distribution must be changed, or!

The book is about evenly divided between the presentation of statistical data and an analysis of their significance. The wages data, taken largely from Professor Nearing's earlier work, *Wages in the United States,* are supplemented by census and other statistics showing the relative importance or unimportance of salaries as contrasted with wages. The wages data are comprehensive and sufficiently accurate for the purpose in hand. The measurements of the amount of property and the return thereto are, of necessity, rather loose estimates based upon census statistics of wealth and the corporation aggregates derived from income tax returns. Mr. Nearing finally decides that the total property in-

come in the United States is now well above the six-billion-dollar mark.

There are probably ten million families in the United States which spend less than $500 a year; there are probably twelve million families in the United States, which, together, would have an annual expenditure averaging $500. The six billions of property income would pay all of the expenses of these twelve million families, or, added to their incomes, would raise them to a level of income respectability.

It is not altogether easy to reconcile this conclusion with previous statistics furnished by the author which suggest that of the adult male wage-earners in industry, taking no account of unemployment, a third earn less than $500 a year. No adequate discussion of family income is offered, and if there are twelve million families spending less than $500 a year on the average, they must be made up largely of farmers and agricultural laborers with respect to whom mere money is of doubtful significance. And the professional economist will be inclined perhaps to charge the author with an uncritical use of doubtful statistical material—although he will probably use Mr. Nearing's twenty-four statistical appendices in his classes and secretly admire the Mulhallian ingenuity with which he has manipulated the available statistics to concoct the aggregates which his analysis demands. After all, however, the chief interest of the book is not statistical, and the treatment does not require great quantitative accuracy. And the statistical estimates are fairly made. If there are not twelve million families whose annual incomes are insufficient to procure them the decencies and necessities of life, there are still millions enough to make every thoughtful person, conservative or radical, pause and consider.

The analytical or doctrinal sections of the book will arouse much interest. Professor Nearing not only maintains that the old categories of rent, interest, wages and profit are "indefensible" and "outworn" (although he makes constant and important use of three of them), but goes to the length of asserting that:

> The division of total income into service income and property income meets every demand of both theory and practice. Theoretically, there is a clearly marked line of distinction between that income which is derived from the rendering of services and that which is derived from the ownership of property. Service denotes the expenditure of energy. Property ownership bespeaks a legally established right. Service and ownership are two essentially different concepts. Furthermore, an examination of the various forms of income (using that term to mean a flow of purchasing power) fails to show any share of the income fund which does not fall within this classification. Modern accounts

are so kept that the sum paid for services (compensation) is readily distinguishable from the sums paid to the owners of property (interest and dividends). The substitution of the corporate form of business organization for the one-man business and the partnership has resulted in the virtual elimination of every form of income save these two.

These claims are rather sweeping. There is, of course, a real distinction between service and ownership. There are those who serve but have no property to speak of; while there are those who own and yet render no service which one can discover. But the proposed classification seems to be incomplete. Mr Nearing says almost nothing about "gains and profits" and his silence on the point is significant. They find no natural place in his classification, they issue partly from personal exertion and partly from the ownership of property, and they represent in part one of the most dubious categories of present-day income. Many "swollen fortunes" have been built up not from "property income" but by trafficking in capital values. They have resulted from the purchase, manipulation and subsequent sale of stocks and bonds. This is not return *to* property. It is rather gain or profit from the manipulation and sale of property. It results from personal exertion, sometimes a very demoralizing kind of personal exertion.

In the second place an important part of the "labor, toil and sacrifice" which make up the "exertion" of the common people is expended for the purpose of accumulating property. The wage earner who toils and skimps to buy a home "earns" the subsequent rental therefrom as truly as he earns the wages which he received. Work and saving for this purpose are of enormous importance particularly among farmers, agricultural laborers, and immigrants. Mr. Nearing of course does not deny all this. On the contrary he explicitly calls attention to it. But apparently he forgets it, inasmuch as implication is heaped on implication and suggestion upon suggestion, all to the general effect that there is a peculiar legitimacy in service income and a peculiar illegitimacy in property income. Stripped of irrelevant matter it is difficult to see in the newly formulated problem which Mr. Nearing presents, anything essentially different from the old problem of inheritance. If men do every day and in large numbers toil and moil to accumulate property, they "earn" the usufruct thereof during their lives just as much—and just as little—as they "earn" the wages which they receive. Whether their heirs or assigns earn the income is another and a very old story.

In his statistical discussions Mr. Nearing constantly assumes

that dividends and interest fairly measure the "return to property." There would seem to be an error here, possibly an important error. In the great majority of small corporations today the investor who simply buys stock and sleeps on it, awakens finally to nothing but disappointment. The men who invest successfully in small corporations find it necessary to take an active interest in the conduct and affairs of those corporations. In thousands of corporations dividends and salaries are practically interchangeable. The principal officers own practically all of the stock and take their return in dividends rather than in salaries merely to make a good showing at the banks. Shareholders "earn" their dividends to an appreciable degree. Similarly, agricultural landlords earn a part of the rents which they receive. The retired farmer who does not supervise his tenant is apt to get in the end little net rent. So far as bonds are concerned there are enormous losses which must be taken into account.

There is probably a pure return for the use of property, at least as a theoretical ultimate. But when we strip dividends and interest of the return for personal exertion and compensation for risk, the residue is largely our old friend "pure interest" whose legitimacy has been industriously questioned since the time of Karl Marx at least. Indeed it seems to the reviewer that Mr. Nearing's principal problem could have been investigated more easily without the statistical apparatus which he erects. Modern capitalism Mr. Nearing calls "economic parasitism." The real object of his book seems to be an attempt to prove that the four or five per cent which an investor may safely charge for the mere use of capital is an inequitable and disproportionate charge compared with the $500 a year which the average wage-earner is able to obtain for his personal participation in modern industry. This is a grave question, but it is not to be answered by showing that one half of the net income of the average corporation is paid out in dividends, or that in the furniture industry wages constitute thirty-one per cent of the value of the product, whereas in the meat-packing industry wages constitute only three per cent of the value of the product.

It is an old and impudent trick on the part of reviewers to censure authors for not anwsering questions which the reviewers want answered. But Mr. Nearing raises grave issues and reaches vital conclusions by statistical arguments which impress one as in large part irrelevant. It seems a pity that more thorough con-

sideration could not be given to the charges of exploitation and parasitism. For instance, the author insists that "property income enjoys priority in its claims upon the proceeds of industry," that "the vicissitudes of industry affect property income less sharply than they affect service income," and that "income-yielding property is relatively permanent." These assertions may be true. But they cannot be substantiated by a discussion so brief that no account is taken of mechanics' liens and wage-priority laws; of the precarious irregularity of dividends in the case of many, perhaps a majority, of present-day corporations; of the enormous losses sustained by those who put their trust in stocks and bonds. Is it true as a matter of fact that dividends are more regularly paid than wages? How much time and space should a scientific author give to the substantiation of such a statement as the following:

> At present, labor shoulders the give and take of prosperous and adverse years. When times are bad, men are laid off. Orders decrease, and part-time work automatically ensues. Meanwhile the snipping of coupons sounds at regular, unvaried intervals, and the book in which dividend checks are drawn is busy four times each year.

Furthermore, if property has established a prior claim, we must face the possibility that, after all, in modern industry, credit may be more indispensable than labor. It is a revolting possibility, but still a possibility which the scientific inquirer must face without becoming excited. And if we credit this priority to exploitation and parasitism, what deduction should be drawn concerning the intelligence of the electorate which permits itself to be exploited? Among the whites, we have had universal male suffrage in this country for nearly a century. If a free people in that time can not rid itself of parasitism is there much hope for such a people? Or after all is the trouble something deeper than "industrial parasitism"?

Mr. Nearing is, however, on solid ground when he points out the insufficiency of wages, calls attention to the extreme concentration of wealth and directs our attention to the incompatibility of democracy and the existing distribution of wealth. The facts here are not, we believe, in dispute; and the author is probably right in insisting that conditions can not continue as they are, that they spell social revolution. It makes no difference who is to "blame" or what is "responsible." The existing distribution of wealth can not be reconciled with democratic institutions, and before long one or the other must be seriously modified. Mr. Nearing

renders invaluable service in again arousing us to this great truth in pointed, biting sentences that seize the attention. His style is homely and stirring. He wastes few words. Pedantry is absent. Both author and book are frank and courageous. If they seem to be radical, it is because here the facts are radical.

T. S. ADAMS.

Cornell University.

Mortality Laws and Statistics. By ROBERT HENDERSON. (New York: John Wiley & Sons, Inc. 1915. Pp. v, 111. $1.25.)

The purpose of this monograph "to set forth in concise form the essential facts and theoretical relations with reference to the duration of human life" is especially well carried out when we consider the small amount of space taken by the author to accomplish such a purpose. The work is concerned with life contingencies, excluding monetary applications.

The book begins with brief descriptions of the preparation and use of the mortality tables that have been of greatest importance in the development of life insurance in England and the United States. The mortality tables thus described are: The Breslau Table, The English Life Tables, The Northampton Table, The Carlisle Table, The Actuaries' or Combined Experience Table, the Healthy Male (H^m) Table, The British Offices' Life Tables, The American Experience Table, The National Fraternal Congress Table, The M. A. Table of the Medico-Actuarial Mortality Investigation, McClintock's Annuitants' Mortality Tables, and The British Offices' Life Annuity Tables.

The work next deals with formulas for the probabilities of life and death and with the mathematical relations between various functions connected with human mortality. The chapter on Formulas for the Law of Mortality treats the formulas of Gompertz, Makeham, Wittstein, and Pearson as means of expressing facts of mortality by frequency functions.

Statistical applications are then taken up to obtain formulas for the rate of mortality for a stationary population and to indicate how to make corrections to meet the actual conditions of a population.

The second half of the work is devoted to the construction and graduation of mortality tables from the mortality statistics of general populations and from the mortality experience of life insurance companies. In the development of the necessary formulas